

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.-14. Canceled.

15. (Original) A magnetic recording medium, comprising:

a substrate; and

a Co-containing spinel-based iron oxide thin film formed on the substrate, comprising magnetite represented by the general formula of  $\text{FeO}_x \cdot \text{Fe}_2\text{O}_3$  ( $0 < x < 1$ ) and maghemite represented by the general formula of  $\gamma\text{-Fe}_2\text{O}_3$ , and having a Co content of 1 to 20 mol% based on Fe, a coercive force value of not less than 159 kA/m (2,000 Oe), a thickness of 5 to 200 nm, a center line average height  $R_a$  of 0.1 to 0.8 nm, a maximum height ( $R_{\text{max}}$ ) of not more than 10 nm, a surface electrical resistance value of not more than 1.5 M $\Omega$  and a saturation magnetization value of 29 to 63 Wb/m<sup>3</sup> when measured by applying a magnetic field of 1,590 kA/m (20 kOe) thereto.

16. Canceled.

17. (New) A magnetic recording medium, comprising:

a substrate; and

a Co-containing spinel-based iron oxide thin film formed on the substrate, having a Co content of 1 to 20 mol% based on Fe, a thickness of 5 to 200 nm, a center line

average height Ra of 0.1 to 0.8 nm, a maximum height (Rmax) of not more than 10 nm, a surface electrical resistance value of not more than 1.5 MΩ, a coercive force value of not less than 159 kA/m (2,000 Oe) and when measured by applying a magnetic field of 1,590 kA/m (20 kOe) thereto, a saturation magnetization value of 29 to 63 Wb/m<sup>3</sup>.

18. (New) A magnetic recording medium according to claim 17, wherein said spinel-based iron oxide thin film comprises magnetite represented by the general formula of  $\text{FeO}_x \cdot \text{Fe}_2\text{O}_3$  ( $0 < x < 1$ ) and maghemite represented by the general formula of  $\gamma\text{-Fe}_2\text{O}_3$ .

19. (New) A magnetic recording medium according to claim 17, further comprising an underlayer formed between the substrate and the Co-containing spinel-based iron oxide thin film, said underlayer having a thickness of not more than 200 nm and being one selected from the group consisting of an oxide thin film having a NaCl-based structure, a metal thin film having a bcc structure, a metal thin film having a B2 structure and an oxide thin film exhibiting an amorphous structure by X-ray analysis.

20. (New) A magnetic recording medium according to claim 19, wherein said underlayer is one selected from the group consisting of nickel oxide thin film, magnesium oxide thin film, chromium metal thin film, Cr-Mo alloy thin film, Ni-Al thin film, Fe-Al thin film, SiO<sub>2</sub> thin film and Al<sub>2</sub>O<sub>3</sub> thin film.

21. (New) A magnetic recording medium, comprising:  
a substrate;

an underlayer formed between the substrate and the Co-containing spinel-based iron oxide thin film, said underlayer having a thickness of not more than 200 nm and being one selected from the group consisting of an oxide thin film having a NaCl-based structure, a metal thin film having a bcc structure, a metal thin film having a B2 structure and an oxide thin film exhibiting an amorphous structure by X-ray analysis; and

a Co-containing spinel-based iron oxide thin film formed on the underlayer, having a Co content of 1 to 20 mol% based on Fe, a thickness of 5 to 200 nm, a center line average height Ra of 0.1 to 0.8 nm and a maximum height (Rmax) of not more than 10 nm, a surface electrical resistance value of not more than 1.5 M $\Omega$ , a coercive force value of not less than 159 kA/m and when measured by applying a magnetic field of 1,590 kA/m (20 kOe) thereto, a saturation magnetization value of 29 to 63 Wb/m<sup>3</sup>.